

ABSTRACT

A processor capable of running multiple threads runs a program in one thread (called the “main” thread) and at least a portion of the same program in another thread (called the “pre-execution” thread). The program in the main thread includes instructions that cause the processor to start and stop pre-execution threads and direct the processor as to which part of the program is to be run through the pre-execution threads. Preferably, such instructions cause the pre-execution thread to run ahead of the main thread in program order. In that way, any cache miss conditions that are encountered by the pre-execution thread are resolved before the main thread requires that same data. Therefore, the main thread should encounter few or no cache miss conditions.

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